Appendix B
Glossary of Terms

Actual Warning Time
Time between receipt of flood warning and the time of flood occurrence. Actual flood warning time is less than the potential flood warning time. Actual flood warning time is sometimes also referred to as response time.

ALERT System
ALERT is an acronym for **A**utomated **L**ocal **E**valuation in **R**eal-**T**ime. It is the name of a particular type of advanced automated flood-threat recognition system developed by the National Weather Service (NWS).

Automated Local Flood Warning System
A local flood-threat recognition system with capabilities to automatically collect precipitation and other hydrometeorological data, evaluate possible alarm conditions (high rainfall rates, high river elevations, etc.), and automatically alert an operator.

Bankfull Stage
Highest stream elevation that occurs without spilling on to adjacent floodplain.

Base Station
Generally, the central location for receiving data from an automated local flood-threat recognition system.

Calibration
Adjustment of parameters in a hydrologic model to achieve agreement between the simulated hydrographs produced by the hydrologic model and observed hydrographs from the watershed being modeled.

Conveyance
A measure of the carrying capacity of a channel at a specified location.

Crest
The maximum elevation reached by a flood hydrograph.

Discharge
The volumetric flow rate at a specified location.

Emergency Preparedness Plan
A detailed written plan documenting the duties and responsibilities of personnel responding to a flood emergency. It is a list of actions required to minimize the loss of life and property due to an emergency such as flooding.

Event

a. A meteorological or hydrological occurrence such as a “storm event” or a “flood event.”

b. Incremental change recorded by a meteorological or hydrological instrument. ALERT and IFLOWS systems use the term event to describe an incremental change in accumulated rainfall or stage. An ALERT/IFLOWS "event" is the occurrence of an additional millimeter of rainfall or the incremental increase (or decrease) of stage. Each ALERT/IFLOWS increment or event triggers a data reporting and recording sequence.

Exceedence Frequency
The percent chance of a flood of a specified magnitude being exceeded equaled or exceeded during any given year. The exceedance frequency is equal to the reciprocal of the recurrence interval at a specified location.

Flood Stage
The water surface elevation where damage begins.

Flood Index
Typically, the amount of rainfall required to produce flood stage at a specified location along a stream. The amount of rainfall required to initiate flooding is generally specified to occur within a specific period of time (e.g., 3, 6, 12, or 24 hr).

Flood
A general and temporary condition of:

a. Partial or complete inundation of normally dry land areas from the overflow of inland and/or tidal waters and/or

b. The unusual accumulation of waters from any source.

Flood Hazard
The potential for inundation which involves the risk to life, health, property, and natural floodplain values.

Flood Hazard Rating (See Table 3-2, main text)

Floodplain
The lowland and relatively flat areas adjoining inland and coastal waters and those other areas subject to flooding.

Hardware
Physical equipment used in a flood warning - preparedness program. "Field" hardware refers to raingages, stream gages, repeaters, weather stations, etc. "Base station" hardware refers to computers, printers, modems, power supplies, etc.

Hydrograph
A graph or chart showing the time variation of stream elevation or flow at a specific location.

IFLOWS
Integrated **Fl**ood **O**bservation and **W**arning **S**ystem, a federally funded automated flood-threat recognition system serving the Appalachian mountain area.

Line-of-Sight Radio Communication
Radio communications in the frequency ranges commonly used for flood warning - preparedness programs can be blocked by obstacles such as buildings, hills, and mountains. Also, communications in these frequencies generally cannot go beyond the horizon due to the curvature of the earth. Literally, if an observer can see the destination, radio communications can be established. Typically, line-of-sight communications over flat terrain are limited to about 32 km (20 miles) - less if obstacles are present and more if transmitting from hilltop to hilltop.

N-Year Flood
A flood event of a specific magnitude is often referred to an "N-year" flood event. In other words, the event occurs one or more times in an N-year period on the average. For example, an event that occurs, on an average, once in 100 years, once in 25 years, once in 10 years, etc., is known as the 100-year event, or the 25-year event, or the 10-year event, etc. The probability of an N-year event occurring in any given year is 1/N. A 100-year event has a 1/100 or a 1-percent chance of occurring in any given year.

Potential Warning Time
The maximum time available to warn floodplain occupants of an impending flood (Figure 3-1).

Quantitative Precipitation Forecast (QPF)
A specific amount of forecasted precipitation for specified period of time. (e.g., 76.2 mm (3 in.) of rain is forecast between 6 p.m. and 12 a.m. today)

Raingage
A device used to detect and measure rain. The most common gages measure rain by volume or weight. The most popular rain measurement device for automated measurement and detection systems used for flood warning is the tipping bucket gage sized to measure rain in 1-mm (0.04-in.) increments (Figure B-1).

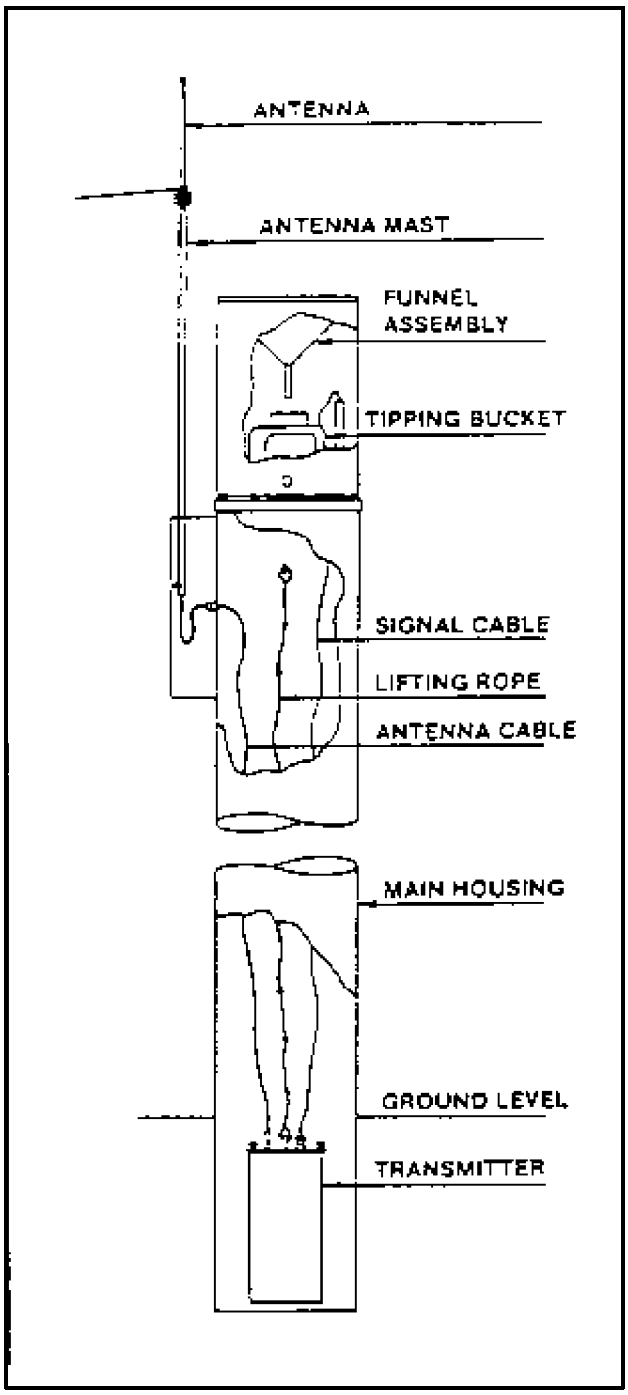

Figure B-1. Typical ALERT/IFLOWS Raingage

Recurrence Interval
The average interval of time (e.g., N-years) in which an annual maximum flood of a given magnitude is equaled or exceeded. A flood with a recurrence interval of 100 years has a 1 percent

(1/100) chance of being equaled or exceeded in any given year.

Repeater
A radio receiver/transmitter combination used to relay radio signals over or around obstacles to line-of-sight communications.

Response Time
The amount of time available for floodplain occupants to respond to a flood event after receiving a warning.

Stage
Water surface elevation above a specified datum (e.g., mean sea level) at a specified location.

Stage - Damage Relationship
A chart or table relating flood damages expected when flood stages reach the indicated elevations.

Stage - Discharge Relationship
A chart or a table used to convert measurements of water surface elevation (stage) to estimates of volumetric flow rate (discharge).

Software
Computer programs used to support flood warning - preparedness activities.

Stream Gage
A device to measure the water surface elevation of a stream, river, or reservoir (Figure B-2).

Telemetry
Transportation of data from a measurement site to a receiving station using some appropriate communications link (i.e., radio, satellite, telephone, meteorburst, etc.).

Warning
A message from the NWS that meteorological and/or hydrological conditions exist that make a specific event imminent or that the event is already occurring (e.g., Severe Thunderstorm Warning, Flash Flood Warning, etc.).

For example, the NWS criteria for the issuance of a Flash Flood Warning are:

a. Flooding is reported.

b. Precipitation capable of causing flooding is indicated by radar and/or satellite.

c. Observed rainfall approaches or exceeds NWS flash flood guidance.

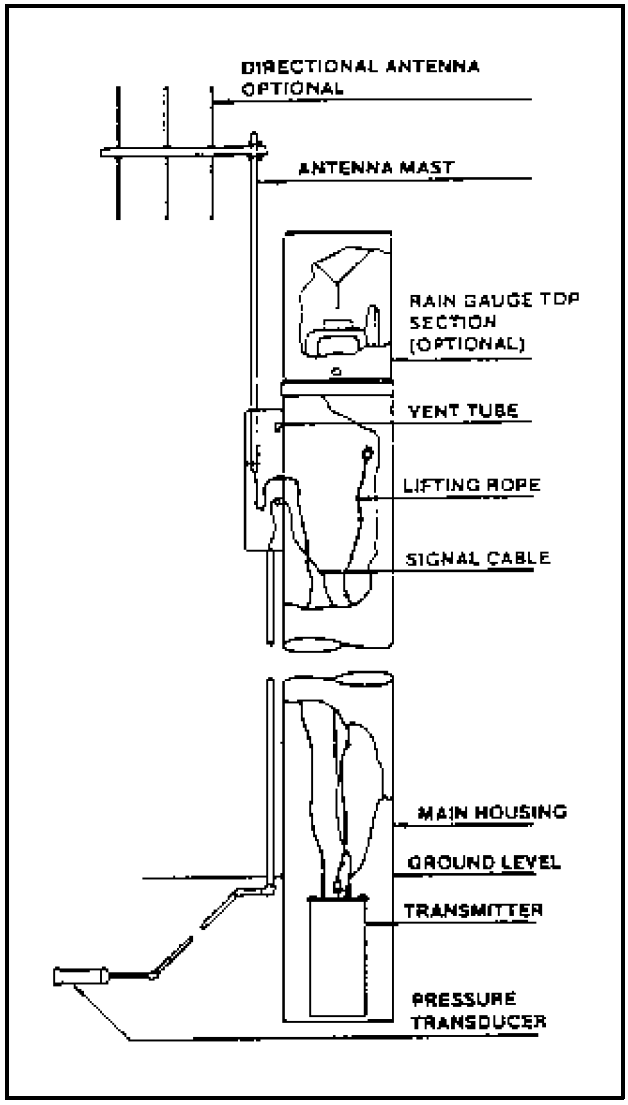

Figure B-2. Typical pressure transducer stream gage

d. A dam failure or other causative event makes flooding imminent or is reported.

e. Predictive procedures (hydrologic models etc.) indicate flooding.

Watch
A message from the NWS that meteorological and/or hydrological conditions exist that make a specific event likely to occur (e.g., Severe Thunderstorm Watch, Flash Flood Watch, etc.).

For example, the NWS criteria for the issuance of a Flash Flood Watch are:

a. Meteorological, soil, and stream conditions indicate it is possible but not imminent that flooding will develop within a designated area.

b. Possible dambreak threatens persons and property.